

ABSTRACT

It is an object to provide polypeptide compositions originating from silk protein which have not only excellent cell growth-promoting activity associated with undegraded silk fibroin and sericin, the fibroin H-chain and L-chain, or the a component of sericin, but also excellent touch, extensibility, and the like inherent in fibroin and sericin having a molecular weight not higher than 200,000. A method for producing functional polypeptide compositions originating from silk protein having an average molecular weight not lower than 10,000 and not higher than 200,000 and being excellent for cell growth-promoting activity, extensibility and the like, comprising; solubilizing a raw silk protein material from the domesticated silkworm or *Antheraea yamamai* in an aqueous solution of neutral salt, the raw silk protein material having an average molecular weight larger than 200,000 and at least a part or the whole of the H-chain and L-chain of silk fibroin and sericin a left undegraded in the case of the raw silk protein material from the domesticated silkworm; treating subsequently the solution with a peptide bond-cleaving agent; and cleaving peptide bonds between specific amino acid residues of silk protein.